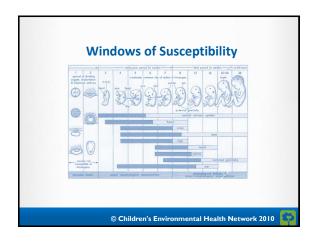


## **OVERVIEW**

- Pre-test
- Intro
- Environmental Hazards
- Eco-Healthy Child Care®
- Using EHCC
- Evaluation and Post-test







WHY FOCUS ON CHILDREN	? 
<ul><li>particularly vulnerable</li><li>life-long damage</li></ul>	
© Children's Environmental Health N	letwork 2010

## **ENVIRONMENTAL HEALTH:**

- 85,000 chemicals
- Inadequate testing
- Found in our bodies
- Inadequately regulated

© Children's Environmental Health Network 2010

## **IMPACT?**

Some categories of chemicals are of concern

HOW ARE	CHILDREN
<ul><li>Ingestion</li></ul>	
<ul> <li>Inhalation</li> </ul>	
<ul><li>Skin, Eye</li></ul>	
<ul><li>Pre-natal</li></ul>	
	© Children's Environmental Health Network 2010

## **ASTHMA**

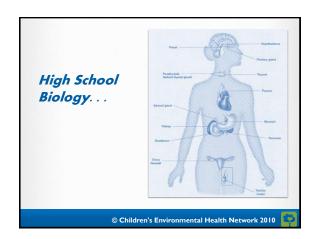
- Leading cause of school absenteeism
- 9.6%
  - 17% of African American children
  - [insert state specific stats]

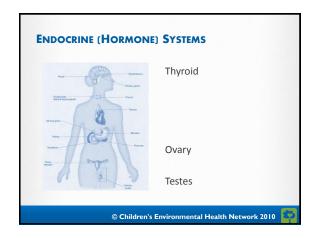
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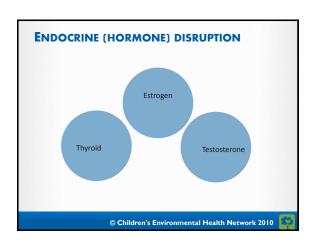
## **LEARNING DISABILITIES**

- Increased 191% from 1977 to 1994
- Autism:
  - 1 in 88 (2008)
  - Up from 1 in 700 children

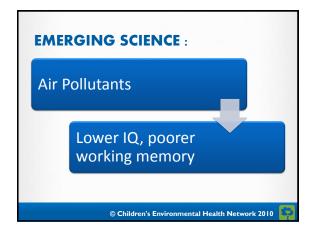


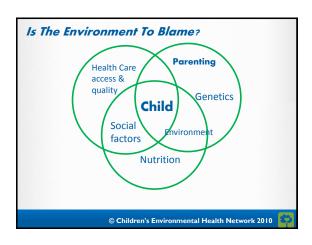






• Example: Air III • Asthma • Fetal lung • DNA damage • Cardiac birth of • SIDS • Lung function	Pollutants
	© Children's Environmental Health Network 2010 🦃

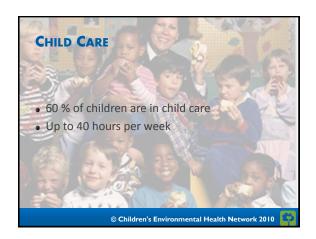




IS THE ENVIRONMENT TO BLAME?
<ul><li>Is is the cause of all woes?</li><li>No</li></ul>
<ul><li>Does it play a role?</li><li>Yes</li></ul>
© Children's Environmental Health Network 2010

CHILDREN'S ENVIRONMENTAL HEALTH
Environment plays a role
Exposures increase cancer risk decades later
© Children's Environmental Health Network 2010



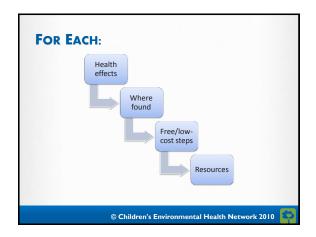






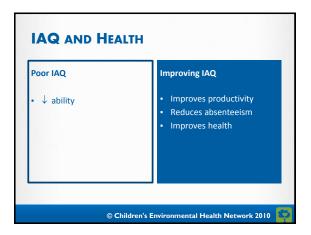


# ECO-HEALTHY CHILD CARE 11 Topics Air Quality Pest Control Lead Mercury Furniture & Carpets Art Supplies Plastics Radon Arsenic Household Chemicals Garbage & Recycling



FOR SOME:
Additional resources
Adult learning
*
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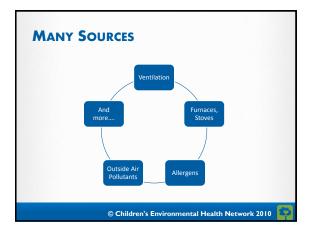




## **IAQ AND HEALTH**

- Head off Environmental Asthma in Louisiana (HEAL)
  - 50% 
     ↓ asthma attacks
- Baltimore: asthma symptoms

© Children's Environmental Health Network 2010

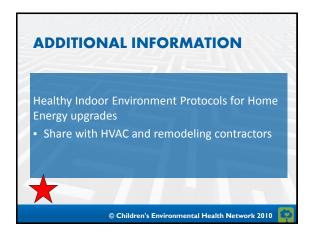


## WHAT YOU CAN DO TO IMPROVE IAQ

- NO SMOKING
- Educate
- Identify and address
- Ventilation
- Equipment

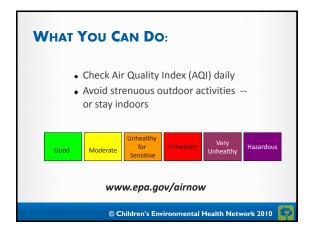






OUTDOOR AIR POLLUTION Sources:
<ul> <li>Cars, buses, trucks</li> <li>Industry</li> <li>Utilities</li> <li>Lawnmowers, other equipment</li> <li>Wildfires</li> </ul>
© Children's Environmental Health Network 2010

# POLLUTANTS FROM MOTOR VEHICLE EXHAUST • Diesel exhaust • Carcinogen • Particulate Matter (PM) • Ozone, particulates • High exposure: < 500 feet from traffic



WHAT YOU CAN DO	
Reduce Idling	
HVAC system     Windows	
Outside air intakes	
Play areas	
© Children's Environmental Health Network 2010	
WHAT YOU CAN DO:	
V	
Tell your elected officials to protect health	
© Children's Environmental Health Network 2010	
MOM'S CLEAN AIR FORCE	
ON-LINE ASTHMA TRIGGERS GUIDE	

- Eliminating asthma triggers
- Air quality standards
- www.cehn.org/ehcc/resources
- Under "Air Quality"

## **CHECKLIST: AIR QUALITY (1)**

- 3. We avoid conditions that lead to excess moisture, because moisture contributes to the growth of mold and mildew. We maintain adequate ventilation (suitable fans or open screened windows). We repair water leaks and keep humidity within a desirable range (30-50%).
- 4. We do not allow cars or other vehicles to idle in our designated parking areas.

© Children's Environmental Health Network 2010



## CHECKLIST: AIR QUALITY (2)

- 5. We do not use scented or unscented candles or air fresheners.
- 6. During operating hours, we do not permit smoking anywhere on the premises or in sight of children. (Note: For the healthiest environment for children and staff, smoking should not be allowed on the premises at any time). REQUIRED

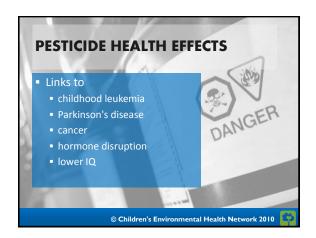
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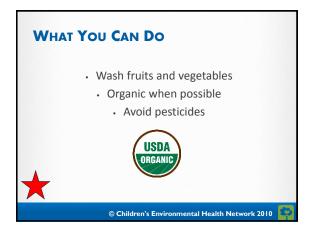


## **PEST CONTROL / PESTICIDES**

- Designed to kill
- Persist
- Air, soil and water
- Fruits, vegetables, and water
- Inside and outside

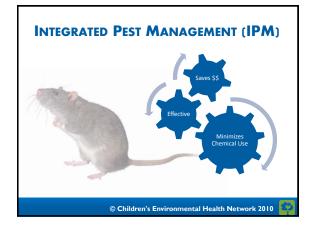




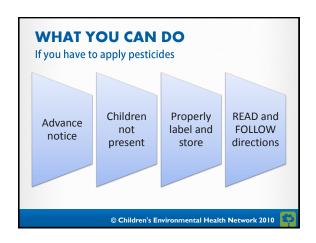




# ◆Clean and dry •Caulk cracks and holes •Pesticides as a last resort © Children's Environmental Health Network 2010



# IPM RESOURCES • Extension IPM programs • [insert state specific info] • Many excellent resources: • www.cehn.org/ehcc/resources • www.epa.gov/childcare



## CHECKLIST: PESTICIDES & PEST PREVENTION (1)

1. We use non-toxic techniques both inside and outside the facility to prevent and control pests (both insects and weeds). If a serious threat remains and pesticide application is the only viable option, parents and staff are notified in advance and a licensed professional applies the least toxic, effective product at a time when children will have the least exposure to the application area for at least 12 hours (see manufacturer's instructions to ensure 12 hours is enough time). REQUIRED

© Children's Environmental Health Network 2010

## to

## CHECKLIST: PESTICIDES & PEST PREVENTION (2)

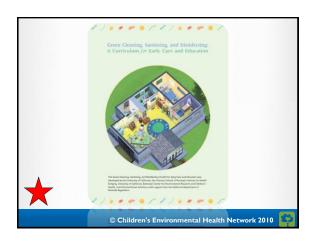
2. We thoroughly wash all fruits and vegetables to avoid possible exposure to pesticides, and we take the opportunity to educate children about the importance of doing so.

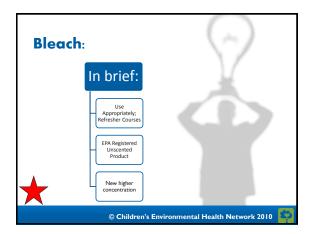




WHEN TO "CLEAN" VS WHEN TO DISINFECT
Follow the regulations
Least toxic chemical

# WHEN TO 'CLEAN' VS WHEN TO DISINFECT? To clean safely, know how you need to clean © Children's Environmental Health Network 2010





# PRINCIPLES OF CLEANING FOR HEALTH • Keep dirt out • Third-party certified • All-purpose cleaners • Disinfect target areas • Maintain Equipment

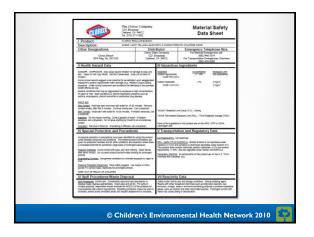
## **BETTER CLEANING EQUIPMENT**

- Walk-off mats
- Microfiber
- HEPA vacuums or microfiber mops
- High-filtration vacuum attachments

© Children's Environmental Health Network 2010

# WHAT YOU CAN DO • Limit eating and drinking • When cleaning • Children are not in the area • Open windows • Protective gear

# WHAT YOU CAN DO Safety Data Sheets (SDS) • VOC content 1% or less • 5 – 9 pH © Children's Environmental Health Network 2010



## II Health Hazard Data

DANGER: CORROSIVE. May cause severe irritation or damage to eyes and skin. Vapor or mist may irritate. Harmful if swallowed. Keep out of reach of children.

Some clinical reports suggest a low potential for sensitization upon exaggerated exposure to sodium hypochlorite if skin damage (e.g., irritation) occurs during exposure. Under normal consumer use conditions the likelihood of any adverse health effects are low.

Medical conditions that may be aggravated by exposure to high concentrations of vapor or mist: heart conditions or chronic respiratory problems such as asthma, emphysema, chronic bronchitis or obstructive lung disease.

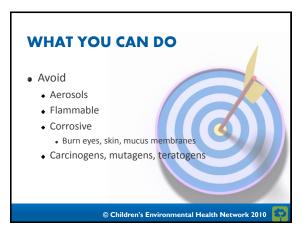
## FIRST AID

Eye Contact: Hold eye open and rinse with water for 15-20 minutes. Remove contact lenses, after first 5 minutes. Continue rinsing eye. Call a physician. Skin Contact: Wash skin with water for 15-20 minutes. If irritation develops, call a physician.

Ingestion: Do not induce vomiting. Drink a glassful of water. If irritation develops, call a physician. Do not give anything by mouth to an unconscious person.

Inhalation: Remove to fresh air. If breathing is affected, call a physician.





## **THIRD PARTY CERTIFIERS**

- Find and use certified 'green' products
- Green-washing
- Third party certifiers evaluate products

© Children's Environmental Health Network 2010



# THIRD PARTY CERTIFIERS: www.ecologo.org www.ecologo.org www.ecologo.org control of the contr

## **CHECKLIST: HOUSEHOLD CHEMICALS**

7. We use unscented, biodegradable, non-toxic cleaning products and least-toxic disinfecting and sanitizing products. When disinfectants and sanitizers are required, they are used only for their intended purpose and in strict accordance with all label instructions.

8. We use chlorine bleach only when and where it is required or recommended by state and local authorities. We use it prudently and never use more than necessary.

9. We do not use aerosol sprays of any kind.

10. We use only low-VOC (Volatile Organic Compounds) household paints and do not paint when children are present.

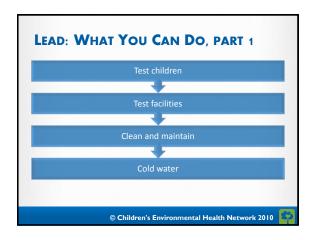


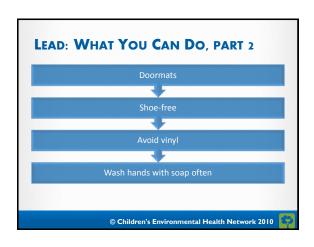
Common: Past Contamination & Present Products
© Children's Environmental Health Network 2010

# MAJOR SOURCES OF LEAD Paint and dust Soil Water Other

# LEAD: HEALTH EFFECTS Harms brain May cause cancer No safe level Children's Environmental Health Network 2010







## LEAD: PAINTING OR RENOVATING? US EPA Lead renovation rule

© Children's Environmental Health Network 2010



## CHECKLIST: LEAD (1)

- 11. We use only cold water for drinking, cooking and making baby formula, we flush all cooking and drinking outlets after long periods of non-use, and we clean debris from our outlet screens or aerators on a regular basis. If we suspect that there could be lead in our drinking water, we have our water tested and, if appropriate, use water filtration devices that have been certified to remove lead for additional treatment of drinking water at the outlet. REQUIRED
- 12. Our facility was built after 1978 OR OR our facility was built before 1978, and we have tested our paint (indoors and outdoors) for lead. We keep the building free of flaking or peeling paint and regularly wash all areas around doors and windows. We use lead safe practices when painting or renovating our facility, and we have visited www.epa.gov/lead to learn more.

	ICT.	LEAD	
. H	 		

- 13. To avoid possible lead exposure, we do not use imported, old or handmade pottery to cook, store or serve food or drinks.
- 14. To reduce possible exposure to lead-contaminated dirt, we supply a rough mat at the entrance of our facility and encourage the wiping of shoes before entering or we are a shoe-free facility.
- 15. We screen our toys for lead by searching www.cpsc.gov or www.healthystuff.org/departments/toys.

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## **MERCURY**

## Sources:

- Thermometers
- Thermostats
- Fluorescent lights
- Batteries
- Some fish

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## MERCURY

- Naturally occurring
- Toxic
- Builds up in some fish

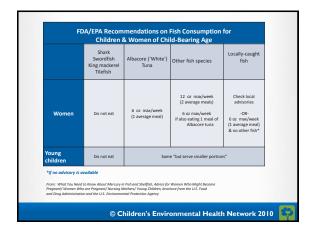


## MERCURY HEALTH CONCERNS • Most vulnerable: • Infants • Children • Pregnant women • Neurotoxin – Harms the brain

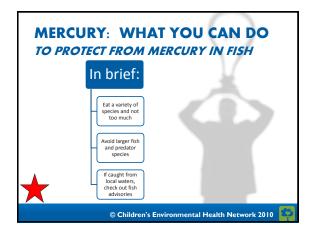
© Children's Environmental Health Network 2010

## MERCURY: WHAT YOU CAN DO

- In Fish:
  - · Mercury depends on species/ where caught
  - 8% of women have harmful mercury levels



Per week:	White Tuna	Light Tuna
Pregnant women	None	None
Children > 45 lbs	4 oz	12.5 oz
Children < 45 lbs	<1.5 oz	<4 oz



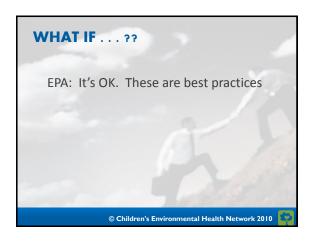
# MERCURY: FISH ADVISORIES www.epa.gov/mercury/advisories.htm • Check with your state's Department of Health or Department of the Environment • [insert state specific info/documents]

On site Identify, eliminate, replace	Disposal • www.earth911.com		
© Children's E	Environmental Health Network 2010		_
MERCURY: WHAT	You Can Do	]	
MERCURY: WHAT `	You Can Do	] _	
<ul><li>On site:</li><li>Spill cleanup kit</li></ul>	You Can Do	] <u> </u>	
<ul><li>On site:</li><li>Spill cleanup kit</li><li>No vacuuming</li></ul>			
<ul><li>On site:</li><li>Spill cleanup kit</li></ul>			
<ul><li>On site:</li><li>Spill cleanup kit</li><li>No vacuuming</li></ul>			
<ul><li>On site:</li><li>Spill cleanup kit</li><li>No vacuuming</li></ul>			

# MERCURY: WHAT YOU CAN DO • Work to reduce pollution © Children's Environmental Health Network 2010



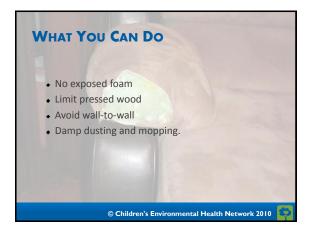




WHAT	IF I'M STILL CONCERNED?
	Poison control center:
	• 800-222-1222
	Your physician
	© Children's Environmental Health Network
CHECK	KLIST: MERCURY
CITECI	CLISI. MERCORI
	do not use any mercury-containing
	ometers or thermostats. Instead we us
digital	options.
17 \\	
	securely store and recycle all used es and fluorescent and compact
	cent light bulbs.
	© Children's Environmental Health Network
FURN	NITURE AND CARPETS
	rticleboard
	rmanent-press d <mark>raperie</mark> s holstered furniture, foam
	all-to-wall
	ints, finishes

FORMALI	DEHYDE
Elevated levels in c	Allergic reactions, asthma attacks  Carcinogen
	© Children's Environmental Health Network 2010

# PBDES: FLAME RETARDANTS Thyroid, liver Disrupts hormones Developmental delays Possible carcinogen



## WHAT YOU CAN DO

- Natural fiber area rugs
- "low-VOC" or "No VOC"
- Paint with caution
- Good ventilation

© Children's Environmental Health Network 2010



## **CHECKLIST: FURNITURE AND CARPETS (1)**

18. To avoid possible exposure to flame retardants, we ensure furniture is in good condition without foam or inside stuffing exposed. Stuffed animals, matting, pillows and other foam items are also intact.

19. Furniture is made of solid wood or low-VOC (Volatile Organic Compounds) products, with few items made of particleboard. When purchasing furniture or renovating, we choose either solid wood (new or used) or products that have low VOCs.

© Children's Environmental Health Network 2010



## **CHECKLIST: FURNITURE AND CARPETS (2)**

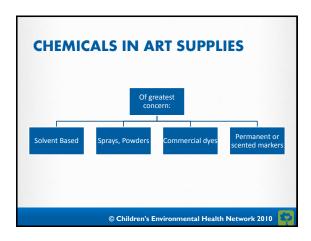
20. We do not have wall-to-wall carpeting where children are present.

21. Area rugs are vacuumed daily and cleaned at least twice a year and as needed using biodegradable cleaners.



ART SUPPLI	S
• Exposure by:	
Inhalation	
<ul> <li>Ingestion</li> </ul>	
• Skin, eye contac	1
© (	Children's Environmental Health Network 2010

# ART SUPPLIES • Harmful chemicals • Asthma, allergies, headaches, nausea • Labels incomplete © Children's Environmental Health Network 2010



ART SUPPLIES: SAFETY TIPS
• Ventilate
No eating or drinking
Wash hands
Mop or vacuum
© Children's Environmental Health Network 2010

## ART SUPPLIES: WHAT YOU CAN DO

- Do Use
- Vegetable or food dyes
- Water-based supplies
- Arts and Crafts Material Institute (ACMI)
  - ■Approved Product (AP) www.acminet.org

© Children's Environmental Health Network 2010

## **ART SUPPLIES: WHAT YOU CAN DO** Ask: What will be the exposures? © Children's Environmental Health Network 2010

36

CHECKILS	 <b>6</b>	

22. We use only non-toxic art supplies approved by the Art and Creative Materials Institute (ACMI). Look for ACMI non-toxic seal "AP" at www.acminet.org.

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## **\$**

#### **PLASTICS**

- Toxic additives and stabilizers: phthalates and BPA
- Toys, vinyl lunchboxes
- Found in our bodies

© Children's Environmental Health Network 2010



## PHTHALATES (THAY-LATES)

### Links to:

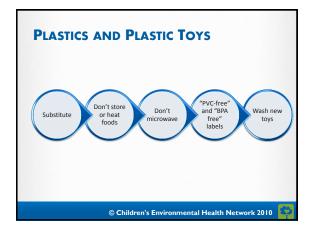
- Developmental & reproductive problems
- Asthma
- Some cancers

### Found in:

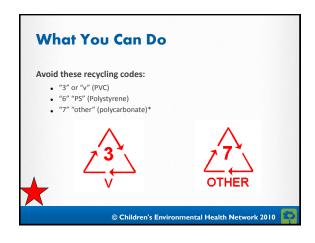
- Soft plastics
- Lotions, cosmetics
- Air fresheners
- Fragrances, solvents



inks to:  Prostate, breast cancers Birth defects, miscarriages Reproductive damage Hyperactivity, aggressiveness	Found in: Clear, hard plastic Tin can linings Credit card receipts
--	--



<ul> <li>Discard food containers with scratches</li> <li>Do not put boiling or very hot liquids into BPA-containing bottles</li> <li>www.hhs.gov/safety/bpa/</li> </ul>
© Children's Environmental Health Network 2010







### **PLASTICS GRAB BAG**

- Is this a product that:
  - A very young child should be mouthing or playing with?
  - Should be used for food or beverages?

© Children's Environmental Health Network 2010



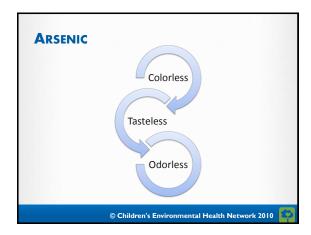
### **CHECKLIST: PLASTICS AND PLASTIC TOYS**

23. We avoid toys made out of soft plastic vinyl (such as vinyl dolls, beach balls, and "rubber ducky" chew toys). We buy only those labeled "PVC-free" and "phthalate free".

24. When using a microwave, we never heat children's food in plastic containers, plastic wrap or plastic bags.

25. We never use baby bottles or sippy cups made with BPA (Bisphenol A). Instead, we use bottles made of glass, or plastic that is labeled 'BPA-free.'





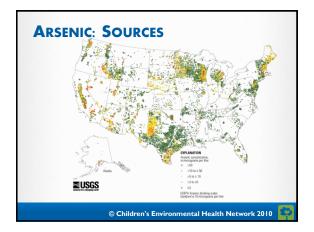
ARSENIC		
<ul><li>Health conce</li><li>Birth/devel</li><li>Cancers</li></ul>	erns: opmental effects	1
	© Children's Environmental Health Network 2010	\$





## ARSENIC: SOURCES Drinking Water • Private wells are the greatest risk

© Children's Environmental Health Network 2010



## CHECKLIST: ARSENIC

26. We do not have playground equipment made of CCA treated wood (pre 2006) — or — if we do, we apply 2 coats of waterproof stain or sealant at least once a year.

The leading cause of lung cancer in non-smokers is: RADON

## **RADON**

- Radioactive gas
- Invisible, odorless, tasteless
- Builds up indoors

© Children's Environmental Health Network 2010

## RADON • Serious public health problem • 20,000 deaths/year © Children's Environmental Health Network 2010

By VAL VAN METER. The Wordenter Star  WINCHESTER — It's not enough to be aware of the dangers of radon gas. The federal Environmental Protection Agency has	Radon is formed by the decay of naturally occurring uranium in the soil, and the invisible, odorless gas can collect in houses, particularly basements, by rising through cracks in foundations or walls.		that certify contractors, he adde the National Radon Proficien Program and the National Rad Safety Board, both of which ha websites. The Virginia Health Depa ment has several pages of into
designated January as National Badoan Action Mouth* and is surjustage health agencies across the time of the second state of t	of naturally occurring transium in the sold in the sol	mated that 21,000 deaths per year are due to exposure to radon, greater for smokers than non-moders.  Devine said radon testing kits. Devine said radon testing kits. Devine said radon testing kits. Side of the said radon testing kits. The said radon testing kits. The said radon testing kits. Side of the sa	mation on radout seizing and treat meants available on its website meants available on its website, beatlement of the seize of the seiz

## WHAT YOU CAN DO

- Test
- 1-800- SOS-RADON or visit www.sosradon.org
- 4pCi/L
- www.epa.gov/radon/whereyoulive.html



Cite	61/1	CT	D .	-	
CHE	CKL	IST:	KΑ	DC	חנ

27. We have tested our facility for radon. If elevated levels of radon are found, we take action to mitigate. We have visited www.epa.gov/radon for resources, and have researched state requirements and guidelines to learn more.

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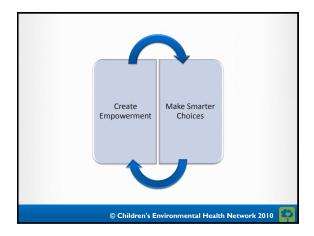


## CHECKLIST: RECYCLING & GARBAGE STORAGE

28. We recycle all paper, cardboard, glass, aluminum and plastic bottles.

29. We keep our garbage covered at all times to avoid attracting pests and to minimize odors.





How are you doing?
• Don't expect to be an angel
Try one or two things in the next 6 months
© Children's Environmental Health Network 2010

## Choices and decisions DO make a difference

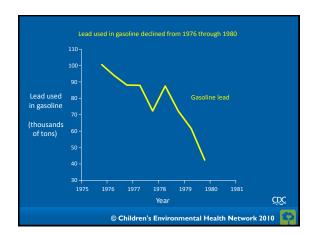
## IAQ AND HEALTH

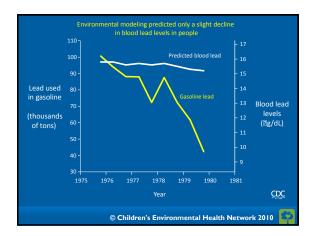
- Head off Environmental Asthma in Louisiana (HEAL)
  - 50% asthma attacks
- Baltimore: asthma symptoms
  - 34%↓w/ HEPA air cleaner

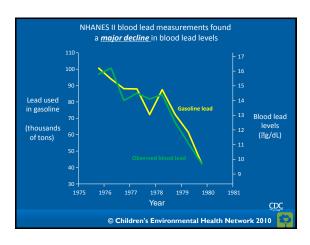
© Children's Environmental Health Network 2010

## **S**

## 







## CHECKLIST: EDUCATION & AWARENESS

30. We create opportunities to educate the families we serve on eco-healthy practices.

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# WWW.CEHN.ORG/EHCC Eco-Healthy Child Care Protects children Free to low-cost solutions Resources, technical assistance, training Endorsement Children's Environmental Health Network 2010





## **EHCC ENDORSEMENT:**

- Certificate
- Poster
- Web posting
- Marketing
- Eco-Healthy tips

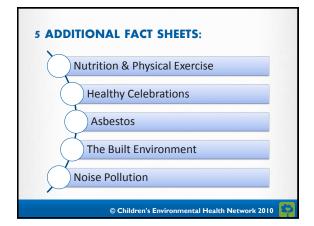
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## **HOW EHCC ENDORSEMENT WORKS:**

- www.cehn.org/ehcc
- Free Materials
  - Checklist
  - 16 fact sheets
- 2 year endorsement
- Parents



HOW EHCC ENDORSEMENT WORKS:
To receive 2-year endorsement:
24 of 30 requirements
Outside signature
Site Assessment
Modest fee
© Children's Environmental Health Network 2010





### WHAT DOES EHCC MEAN FOR YOU?

- EHCC Train the Trainer network
- Updates
- Calendar
- 2 Trainings/year

© Children's Environmental Health Network 2010

### **THANKS TO**

- Cedar Tree Foundation
- W. K. Kellogg Foundation
- Kresge Foundation
- US Department of Housing & Urban Development
- Centers for Disease Control & Prevention
- US Environmental Protection Agency
- Agency for Toxic Substances & Disease Registry and others



